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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,922	02/07/2001	Ikuo Kohashi	925-175	6185

7590 08/13/2002

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EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 08/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/777,922

Applicant(s)

KOHASHI, IKUO

Examiner

Armando Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 May 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Regarding the rejection of claim 1 based on Spaeth et al (PN 5,875,205), examiner agrees with applicant's arguments and withdraws the rejection of claim 1.

Regarding the objection of the drawings, since applicant has disclosed that optical pickups are well known in the art the objection is withdrawn.

Regarding the 35 U.S.C. 112 rejections of claims 1,13 and 14 are withdrawn, since it is clear as to surface emits and which surface is bonded.

Applicant's arguments regarding the 35 U.S.C. 103 (a) rejection are not persuasive, prior art figures 5 and 6 illustrate two extremes a low and a high relative to the bonding layer height, as described by applicant in the specification. These two extremes disclose the general conditions of die bonding layers for semiconductor laser chips, thereby discovering an intermediate or optimum-working height for the die bonding layer involves only routine skill in the art. Furthermore, perceiving such a working range does not involve hindsight but only an unsophisticated judgment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3,11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (figures 5 and 6) in view of Honda et al (PN 6,210,811).

Regarding claims 1-3 and 11,12.

Figures 5 and 6 illustrate a semiconductor laser chip (50) die-bonded to a surface, which are well-known to be used in an optical pick-up as implied on page 2 lines 21-23 of the specification. Figure 5 illustrates the laser chip having a bonding layer thickness of less than .01mm, but below the light emitting point. Figure 6 illustrates a laser chip having a bonding layer thickness of more than .01mm and above the light emitting point. Figures 5 and 6 illustrate advantages and disadvantages of their bonding layer thickness, as disclosed by applicant in the specification, therefore it would have been obvious for a person having ordinary skill in the laser art to determine a bonding layer thickness more than figure 5 but less than figure 6 because it would provide for an optimum working range of the bonding layer thickness.

Applicant's prior art (figures 5 and 6) fails to disclose the particulars of the die-bonding layer's composition, however Honda et al discloses in the abstract and in columns 1 and 5 the well-known epoxy resin composition having conductive particles as silver. Therefore, it would have been obvious for a person having ordinary skills in the art to use the epoxy resin of Honda et al in figures 5 and 6 because it would provide a conductive die-bonding layer for the laser chip.

Regarding claim 13, figures 5 and 6 illustrate advantages and disadvantages of their bonding layer thickness, as disclosed by applicant in the specification. Applicant's

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prior art (figures 5 and 6) fails to disclose the particulars of the die-bonding layer's composition, however Honda et al discloses in the abstract and in columns 1 and 5 the well-known epoxy resin composition having conductive particles as silver.

Therefore it would have been obvious for a person having ordinary skill in the laser art to determine a bonding layer thickness more than figure 5 but less than figure 6 because it would provide for an optimum working range of a conductive die-bonding layer thickness.

Regarding claims 14-16, figures 5 and 6 illustrate advantages and disadvantages of their bonding layer thickness, as disclosed by applicant in the specification, therefore it would have been obvious for a person having ordinary skill in the laser art to determine a bonding layer thickness more than figure 5 but less than figure 6 because it would provide for an optimum working range of the bonding layer thickness.

Semiconductor laser chips are well-known to be used in an optical pick-up as implied on page 2 lines 21-23 of the specification.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the


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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Armando Rodriguez whose telephone number is (703) 308-6218. The examiner can normally be reached on 10-hour day / M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4881.


Armando Rodriguez
Examiner
Art Unit 2828


QUYEN LEUNG
PRIMARY EXAMINER


Paul Ip
Supervisor
Art Unit 2828

AR/PI
August 11, 2002